CLAIMS

1.-58. (Cancelled)

59. (Currently Amended) An iodine injection system for injecting iodine into gas flowing through a nozzle for a laser, the system comprising:

a nozzle having a central axis of symmetry and pair of opposed curved walls defining an area for gas flow there between, the nozzle including:

(a) an inlet defined by the opposed curved walls;

(b) a throat located ~~at a first end of the nozzle~~ downstream from the inlet and defined by convergence of the pair of opposed curved walls, from the inlet to ~~the throat having~~ a pair of opposite sharp corners, at a point of closest convergence of the opposed walls;

(c) an exit nozzle portion having divergently extending opposed curved walls extending from the sharp corners of the throat, the divergent opposed walls terminating at a nozzle exit end;

(d) an exit plane extending across a gas flow area of the nozzle, between points on the opposed walls of the exit nozzle portion, where tangents to the divergently extending curved walls are aligned with a central axis of the nozzle, the nozzle configured such that gas flowing through the exit plane is substantially uniformly supersonic across the exit nozzle portion at the exit plane; and

~~a curved sonic line defining a transonic boundary of the flowing gas within the nozzle~~;

at least one injection strut located within the nozzle, upstream of the exit plane and downstream of the throat, the strut configured for injecting iodine uniformly across the gas flow, when gas flows through the nozzle. ~~into the flow of gas; and~~

~~an exit plane located at a second end of the nozzle, the gas flowing through the exit plane being generally supersonic and generally uniform.~~

60. (Currently Amended) The iodine injection system according to claim 59 wherein the gas flowing through the nozzle has a kernel region and the strut is located near a downstream end of the kernel region.

61. (Previously Presented) The iodine injection system of claim 60 wherein a downstream edge of the kernel region is located between 10% to 50% of the distance from the

throat to the exit plane.

62. (Previously Presented) The iodine injection system of claim 59 wherein the strut is located within 20% to 90% of the distance between the nozzle throat and the exit plane.

63. (Previously Presented) The iodine injection system according to claim 59 wherein a carrier gas is injected with the iodine.

64. (Previously Presented) The iodine injection system according to claim 63 wherein the carrier gas is helium.

65. (Previously Presented) The iodine injection system according to claim 63 wherein the carrier gas is nitrogen.

66. (Cancelled)

67. (Cancelled)

68. (Previously Presented) The iodine injection system according to claim 59 wherein the strut further comprises a heating element.

69. (Previously Presented) The iodine injection system according to claim 59 wherein the gas flowing through the nozzle is oxygen.

70. (Currently Amended) An iodine injection system for injecting iodine into a gas flowing through a two-dimensional nozzle for a laser, the system comprising:

a ~~throat connecting a convergent section a downstream divergent section of the nozzle the throat having a sharp corner~~ nozzle symmetrical about a central axis, and having a curved nozzle body, the nozzle body having an inlet portion at one end of a throat, and an outlet portion at an opposite end of the throat, the inlet portion extending divergently from a sharp corner of the throat, and the outlet portion extending divergently from the sharp corner of the throat, the outlet portion bounded by opposed continuous convex walls of diminishing curvature as a wall distance from the throat increases, the walls approaching a straight line, parallel to the central axis of the nozzle, proximate a terminal end of the outlet portion; and

~~a curved sonic line defining a transonic boundary of the flowing gas within the nozzle;~~

at least one injection strut located within the ~~downstream divergent section~~ outlet portion of the nozzle and downstream of the throat, the strut comprising a plurality of orifices therein, each

orifice configured for injecting iodine into the flow of gas, when the system is in use; ~~and~~

wherein, when gas flows through an exit plane, located ~~at a second end~~ proximate the terminal end of the outlet portion transverse a path of gas exiting from the outlet portion of the nozzle, the gas ~~flowing~~ flows through the exit plane ~~being generally~~ at supersonic ~~and generally~~ and substantially uniform velocity.

71. (Previously Presented) The iodine injection system according to claim 70 wherein the nozzle has a kernel region and the strut is located near a downstream end of the kernel region.

72. (Previously Presented) The iodine injection system of claim 70 wherein a downstream edge of the kernel region is located between 10% to 50% of the distance from the throat to the exit plane.

73. (Previously Presented) The iodine injection system of claim 70 wherein the strut is located within 20% to 90% of the distance between the nozzle throat and the exit plane.

74. (Previously Presented) The iodine injection system according to claim 70 wherein a carrier gas is injected with the iodine.

75. (Previously Presented) The iodine injection system according to claim 70 wherein the carrier gas is helium.

76. (Previously Presented) The iodine injection system according to claim 70 wherein the carrier gas is nitrogen.

77. (Previously Presented) The iodine injection system according to claim 70 wherein the strut further comprises a heating element.

78. (Previously Presented) The iodine injection system according to claim 70 wherein the gas flowing through the nozzle is oxygen.